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Sequence Listing was accepted.

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Reviewer: markspencer

Timestamp: [year=2009; month=4; day=27; hr=15; min=51; sec=40; ms=549;]

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Application No: 10511698 Version No: 2.0

Input Set:

Output Set:

Started: 2009-04-17 19:39:41.874
Finished: 2009-04-17 19:39:46.946
Elapsed: 0 hr(s) 0 min(s) 5 sec(s) 72 ms
Total Warnings: 120
Total Errors: 0
No. of SeqIDs Defined: 120
Actual SeqID Count: 120

Error code	Error Description
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W 213	Artificial or Unknown found in <213> in SEQ ID (3)
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W 213	Artificial or Unknown found in <213> in SEQ ID (19)
W 213	Artificial or Unknown found in <213> in SEQ ID (20)

Input Set:

Output Set:

Started: 2009-04-17 19:39:41.874
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Total Errors: 0
No. of SeqIDs Defined: 120
Actual SeqID Count: 120

Error code Error Description

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SEQUENCE LISTING

<110> von Knebel-Doeberitz, Magnus
Gebert, Johannes
Linnebacher, Michael
Woerner, Stefan
Ridder, Ruediger
Bork, Peer
Yuan, Yan Ping

<120> Neopeptides and Methods Useful for Detection and Treatment of
Cancer

<130> 03528.0145.00US00

<140> 10511698
<141> 2009-04-17

<150> PCT/EP 03/04083
<151> 2003-04-17

<150> EP 02 008 773.0
<151> 2002-04-18

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encoded by genes with coding microsatellites

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1 5 10 15

Ile Tyr Gly Leu Leu Leu Asn Ala Ser Pro His Leu Asp Lys Thr Ser
20 25 30

Trp Asn Ala Leu Pro Pro Gln Pro Leu Ala Phe Ser Glu Val Glu Arg
35 40 45

Ile Asn Lys Asn Ile Arg Thr Ser Ile Ile Asp Ala Val Glu Leu Ala
50 55 60

Lys Asp His Ser Asp Leu Ser Arg Leu Thr Glu Leu Ser Leu Arg Arg
 65 70 75 80

 Arg Gln Met Leu Leu Glu Thr Leu Lys Val Lys Gln Thr Ile Leu
 85 90 95

 Glu Pro Ile Pro Thr Ser Leu Lys Leu Pro Ile Ala Val Ser Cys Tyr
 100 105 110

 Trp Leu Gln His Thr Glu Thr Lys Ala Lys Leu His His Leu Gln Ser
 115 120 125

 Leu Leu Leu Thr Met Leu Val Gly Pro Leu Ile Ala Ile Ile Asn Ser
 130 135 140

 Pro Gly Lys Glu Glu Leu Gln Glu Asp Gly Ala Lys Met Leu Tyr Ala
 145 150 155 160

 Glu Phe Gln Arg Val Lys Ala Gln Thr Arg Leu Gly Thr Arg Leu Asp
 165 170 175

 Leu Asp Thr Ala His Ile Phe Cys Gln Trp Gln Ser Cys Leu Gln Met
 180 185 190

 Gly Met Tyr Leu Asn Gln Leu Leu Ser Thr Pro Leu Pro Glu Pro Asp
 195 200 205

 Leu Thr Arg Leu Tyr Ser Gly Ser Leu Val His Gly Leu Cys Gln Gln
 210 215 220

 Leu Leu Ala Ser Thr Ser Val Glu Ser Leu Leu Ser Ile Cys Pro Glu
 225 230 235 240

 Ala Lys Gln Leu Tyr Glu Tyr Leu Phe Asn Ala Thr Arg Ser Tyr Ala
 245 250 255

 Pro Ala Glu Ile Phe Leu Pro Lys Gly Arg Ser Asn Ser Lys Lys Lys
 260 265 270

 Arg Gln Lys Lys Gln Asn Thr Ser Cys Ser Lys Asn Arg Gly Arg Thr
 275 280 285

 Thr Ala His Thr Lys Cys Trp Tyr Glu Gly Asn Asn Arg Phe Gly Leu
 290 295 300

 Leu Met Val Glu Asn Leu Glu Glu His Ser Glu Ala Ser Asn Ile Glu
 305 310 315 320

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<223> Description of Artificial Sequence: polypeptides
encoded by genes with coding microsatellites

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1 5 10 15

Ile Tyr Gly Leu Leu Leu Asn Ala Ser Pro His Leu Asp Lys Thr Ser
20 25 30

Trp Asn Ala Leu Pro Pro Gln Pro Leu Ala Phe Ser Glu Val Glu Arg
35 40 45

Ile Asn Lys Asn Ile Arg Thr Ser Ile Ile Asp Ala Val Glu Leu Ala
50 55 60

Lys Asp His Ser Asp Leu Ser Arg Leu Thr Glu Leu Ser Leu Arg Arg
65 70 75 80

Arg Gln Met Leu Leu Leu Glu Thr Leu Lys Val Lys Gln Thr Ile Leu
85 90 95

Glu Pro Ile Pro Thr Ser Leu Lys Leu Pro Ile Ala Val Ser Cys Tyr
100 105 110

Trp Leu Gln His Thr Glu Thr Lys Ala Lys Leu His His Leu Gln Ser
115 120 125

Leu Leu Leu Thr Met Leu Val Gly Pro Leu Ile Ala Ile Ile Asn Ser
130 135 140

Pro Gly Lys Glu Glu Leu Gln Glu Asp Gly Ala Lys Met Leu Tyr Ala
145 150 155 160

Glu Phe Gln Arg Val Lys Ala Gln Thr Arg Leu Gly Thr Arg Leu Asp
165 170 175

Leu Asp Thr Ala His Ile Phe Cys Gln Trp Gln Ser Cys Leu Gln Met
180 185 190

Gly Met Tyr Leu Asn Gln Leu Leu Ser Thr Pro Leu Pro Glu Pro Asp
195 200 205

Leu Thr Arg Leu Tyr Ser Gly Ser Leu Val His Gly Leu Cys Gln Gln
210 215 220

Leu Leu Ala Ser Thr Ser Val Glu Ser Leu Leu Ser Ile Cys Pro Glu
225 230 235 240

Ala Lys Gln Leu Tyr Glu Tyr Leu Phe Asn Ala Thr Arg Ser Tyr Ala
245 250 255

Pro Ala Glu Ile Phe Leu Pro Lys Gly Arg Ser Asn Ser Lys Lys Lys
260 265 270

Gly Arg Arg Asn Arg Ile Pro Ala Val Leu Arg Thr Glu Gly Glu Pro
275 280 285

Leu His Thr Pro Ser Val Gly Met Arg Glu Thr Thr Gly Leu Gly Cys
290 295 300

<210> 3
<211> 282
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: polypeptides
encoded by genes with coding microsatellites

<400> 3
Met Gln Arg Pro Asn Ala His Arg Ile Ser Gln Pro Ile Arg Gln Ile
1 5 10 15

Ile Tyr Gly Leu Leu Leu Asn Ala Ser Pro His Leu Asp Lys Thr Ser
20 25 30

Trp Asn Ala Leu Pro Pro Gln Pro Leu Ala Phe Ser Glu Val Glu Arg
35 40 45

Ile Asn Lys Asn Ile Arg Thr Ser Ile Ile Asp Ala Val Glu Leu Ala
50 55 60

Lys Asp His Ser Asp Leu Ser Arg Leu Thr Glu Leu Ser Leu Arg Arg
65 70 75 80

Arg Gln Met Leu Leu Leu Glu Thr Leu Lys Val Lys Gln Thr Ile Leu
85 90 95

Glu Pro Ile Pro Thr Ser Leu Lys Leu Pro Ile Ala Val Ser Cys Tyr
100 105 110

Trp Leu Gln His Thr Glu Thr Lys Ala Lys Leu His His Leu Gln Ser
115 120 125

Leu Leu Leu Thr Met Leu Val Gly Pro Leu Ile Ala Ile Ile Asn Ser
130 135 140

Pro Gly Lys Glu Glu Leu Gln Glu Asp Gly Ala Lys Met Leu Tyr Ala
145 150 155 160

Glu Phe Gln Arg Val Lys Ala Gln Thr Arg Leu Gly Thr Arg Leu Asp
165 170 175

Leu Asp Thr Ala His Ile Phe Cys Gln Trp Gln Ser Cys Leu Gln Met
180 185 190

Gly Met Tyr Leu Asn Gln Leu Leu Ser Thr Pro Leu Pro Glu Pro Asp

195

200

205

Leu Thr Arg Leu Tyr Ser Gly Ser Leu Val His Gly Leu Cys Gln Gln
210 215 220

Leu Leu Ala Ser Thr Ser Val Glu Ser Leu Leu Ser Ile Cys Pro Glu
225 230 235 240

Ala Lys Gln Leu Tyr Glu Tyr Leu Phe Asn Ala Thr Arg Ser Tyr Ala
245 250 255

Pro Ala Glu Ile Phe Leu Pro Lys Gly Arg Ser Asn Ser Lys Lys Lys
260 265 270

Lys Ala Glu Glu Thr Glu Tyr Gln Leu Phe
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<210> 4

<211> 139

<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence: polypeptides
encoded by genes with coding microsatellites

<400> 4

Met Gly His Pro Arg Ala Ile Gln Pro Ser Val Phe Phe Ser Pro Tyr
1 5 10 15

Asp Val His Phe Leu Leu Tyr Pro Ile Arg Cys Pro Tyr Leu Lys Ile
20 25 30

Gly Arg Phe His Ile Lys Leu Lys Gly Leu His Phe Leu Phe Ser Phe
35 40 45

Leu Phe Phe Phe Glu Thr Gln Ser His Ser Val Thr Arg Leu Glu
50 55 60

Cys Ser Gly Thr Ile Ser Ala His Cys Asn Leu Cys Leu Pro Gly Ser
65 70 75 80

Ser Asn Ser Pro Ala Ser Ala Ser Arg Val Ala Gly Thr Ala Gly Thr
85 90 95

Cys Arg Arg Ala Gln Leu Ile Phe Val Phe Leu Ala Glu Met Gly Phe
100 105 110

His His Val Gly Arg Asp Gly Leu Asp Leu Asn Leu Val Ile His Pro
115 120 125

Pro Arg Ser Pro Lys Ala Leu Gly Leu Gln Ala
130 135

<210> 5

<211> 101
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: polypeptides
encoded by genes with coding microsatellites

<400> 5

Met Gly His Pro Arg Ala Ile Gln Pro Ser Val Phe Phe Ser Pro Tyr
1 5 10 15

Asp Val His Phe Leu Leu Tyr Pro Ile Arg Cys Pro Tyr Leu Lys Ile
20 25 30

Gly Arg Phe His Ile Lys Leu Lys Gly Leu His Phe Leu Phe Ser Phe
35 40 45

Leu Phe Phe Leu Arg His Ser Leu Thr Leu Ser Pro Gly Trp Ser
50 55 60

Ala Val Ala Arg Ser Arg Leu Thr Ala Thr Ser Ala Ser Gln Val Gln
65 70 75 80

Val Ile Leu Leu Pro Gln Pro Pro Glu Trp Leu Gly Leu Gln Ala Arg
85 90 95

Ala Ala Ala Pro Ser
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<210> 6

<211> 53

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: polypeptides
encoded by genes with coding microsatellites

<400> 6

Met Gly His Pro Arg Ala Ile Gln Pro Ser Val Phe Phe Ser Pro Tyr
1 5 10 15

Asp Val His Phe Leu Leu Tyr Pro Ile Arg Cys Pro Tyr Leu Lys Ile
20 25 30

Gly Arg Phe His Ile Lys Leu Lys Gly Leu His Phe Leu Phe Ser Phe
35 40 45

Leu Phe Phe Phe Phe
50

<210> 7

<211> 209

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: polypeptides
encoded by genes with coding microsatellites

<400> 7

Met Gln Arg Arg Leu Val Gln Gln Trp Ser Val Ala Val Phe Leu Leu
1 5 10 15

Ser Tyr Ala Val Pro Ser Cys Gly Arg Ser Val Glu Gly Leu Ser Arg
20 25 30

Arg Leu Lys Arg Ala Val Ser Glu His Gln Leu Leu His Asp Lys Gly
35 40 45

Lys Ser Ile Gln Asp Leu Arg Arg Phe Phe Leu His His Leu Ile
50 55 60

Ala Glu Ile His Thr Ala Glu Ile Arg Ala Thr Ser Glu Val Ser Pro
65 70 75 80

Asn Ser Lys Pro Ser Pro Asn Thr Lys Asn His Pro Val Arg Phe Gly
85 90 95

Ser Asp Asp Glu Gly Arg Tyr Leu Thr Gln Glu Thr Asn Lys Val Glu
100 105 110

Thr Tyr Lys Glu Gln Pro Leu Lys Thr Pro Gly Lys Lys Lys Lys Gly
115 120 125

Lys Pro Gly Lys Arg Lys Glu Gln Glu Lys Lys Lys Arg Arg Thr Arg
130 135 140

Ser Ala Trp Leu Asp Ser Gly Val Thr Gly Ser Gly Leu Glu Gly Asp
145 150 155 160

His Leu Ser Asp Thr Ser Thr Ser Leu Glu Leu Asp Ser Arg Thr
165 170 175

Ala Leu Leu Trp Gly Leu Lys Lys Lys Glu Asn Asn Arg Arg Thr
180 185 190

His His Met Gln Leu Met Ile Ser Leu Phe Lys Ser Pro Leu Leu Leu
195 200 205

Leu

<210> 8

<211> 196

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: polypeptides

encoded by genes with coding microsatellites

<400> 8

Met Gln Arg Arg Leu Val Gln Gln Trp Ser Val Ala Val Phe Leu Leu
1 5 10 15

Ser Tyr Ala Val Pro Ser Cys Gly Arg Ser Val Glu Gly Leu Ser Arg
20 25 30

Arg Leu Lys Arg Ala Val Ser Glu His Gln Leu Leu His Asp Lys Gly
35 40 45

Lys Ser Ile Gln Asp Leu Arg Arg Arg Phe Phe Leu His His Leu Ile
50 55 60

Ala Glu Ile His Thr Ala Glu Ile Arg Ala Thr Ser Glu Val Ser Pro
65 70 75 80

Asn Ser Lys Pro Ser Pro Asn Thr Lys Asn His Pro Val Arg Phe Gly
85 90 95

Ser Asp Asp Glu Gly Arg Tyr Leu Thr Gln Glu Thr Asn Lys Val Glu
100 105 110

Thr Tyr Lys Glu Gln Pro Leu Lys Thr Pro Gly Lys Lys Lys Lys Gly
115 120 125

Lys Pro Gly Lys Arg Lys Glu Gln Glu Lys Lys Lys Arg Arg Thr Arg
130 135 140

Ser Ala Trp Leu Asp Ser Gly Val Thr Gly Ser Gly Leu Glu Gly Asp
145 150 155 160

His Leu Ser Asp Thr Ser Thr Ser Leu Glu Leu Asp Ser Arg Thr
165 170 175

Ala Leu Leu Trp Gly Leu Lys Lys Arg Lys Thr Thr Glu Glu His
180 185 190

Ile Ile Cys Asn
195

<210> 9

<211> 202

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: polypeptides
encoded by genes with coding microsatellites

<400> 9

Met Gln Arg Arg Leu Val Gln Gln Trp Ser Val Ala Val Phe Leu Leu
1 5 10 15

Ser Tyr Ala Val Pro Ser Cys Gly Arg Ser Val Glu Gly Leu Ser Arg

20

25

30

Arg Leu Lys Arg Ala Val Ser Glu His Gln Leu Leu His Asp Lys Gly
35 40 45

Lys Ser Ile Gln Asp Leu Arg Arg Phe Phe Leu His His Leu Ile
50 55 60

Ala Glu Ile His Thr Ala Glu Ile Arg Ala Thr Ser Glu Val Ser Pro
65 70 75 80

Asn Ser Lys Pro Ser Pro Asn Thr Lys Asn His Pro Val Arg Phe Gly
85 90 95

Ser Asp Asp Glu Gly Arg Tyr Leu Thr Gln Glu Thr Asn Lys Val Glu
100 105 110

Thr Tyr Lys Glu Gln Pro Leu Lys Thr Pro Gly Lys Lys Lys Lys Gly
115 120 125

Lys Pro Gly Lys Arg Lys Glu Gln Glu Lys Lys Lys Arg Arg Thr Arg
130 135 140

Ser Ala Trp Leu Asp Ser Gly Val Thr Gly Ser Gly Leu Glu Gly Asp
145 150 155 160

His Leu Ser Asp Thr Ser Thr Ser Leu Glu Leu Asp Ser Arg Thr
165 170 175

Ala Leu Leu Trp Gly Leu Lys Lys Lys Gly Lys Gln Gln Lys Asn
180 185 190

Thr Ser Tyr Ala Thr Asn Asp Leu Ile Ile
195 200

<210> 10

<211> 567

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: polypeptides
encoded by genes with